

## ABSTRACT

The present invention includes an improvement to the existing method of  
5 steam reforming of hydrocarbon, wherein the improvement comprises: the  
flowing is at a rate providing a residence time less than about 0.1 sec  
resulting in obtaining product formation yield or amount that is the same or  
greater compared to product formation at a longer residence time. Another  
improvement of the present invention is operation at a steam to carbon ratio that  
10 is substantially stoichiometric and maintaining activity of the supported catalyst.  
The present invention also includes a catalyst structure for steam reforming of a  
hydrocarbon.